

**§ 90.281 Restrictions on operational fixed stations in the 421–430 MHz band.**

(a) Except for control stations, operational fixed facilities will not be authorized in the 421–430 MHz band. This does not preclude secondary fixed tone signaling and alarm operations authorized in § 90.235.

(b) Control stations associated with one or more mobile relay stations will be authorized only on the assigned frequency of the associated mobile station. Use of a mobile service frequency by a control station of a mobile relay system is subject to the condition that harmful interference shall not be caused to stations of licensees authorized to use the frequency for mobile service communications.

[52 FR 6158, Mar. 2, 1987, as amended at 54 FR 38681, Sept. 20, 1989]

**§ 90.283 [Reserved]**

**Subpart L—Authorization in the Band 470–512 MHz (UHF-TV Sharing)**

**§ 90.301 Scope.**

This subpart governs the authorization and use of frequencies by land mobile stations in the band 470–512 MHz on a geographically shared basis with Television Broadcast stations. Under this special sharing plan, different frequencies are allocated depending on the geographic urban area involved as fully detailed in the following rule sections.

[43 FR 54791, Nov. 22, 1978, as amended at 62 FR 18932, Apr. 17, 1997]

**§ 90.303 Availability of frequencies.**

(a) Frequencies in the band 470–512 MHz are available for assignment as described below. Note: coordinates are referenced to the North American Datum 1983 (NAD83).

(b) The following table lists frequency bands that are available for assignment in specific urban areas. The available frequencies are listed in § 90.311 of this part.

Urbanized area	Geographic center		Bands (MHz)	TV channels
	North latitude	West longitude		
Boston, MA .....	42° 21' 24.4"	71° 03' 23.2"	470–476, 482–488 .....	14, 16
Chicago, IL <sup>1</sup> .....	41° 52' 28.1"	87° 38' 22.2"	470–476, 476–482 .....	14, 15
Cleveland, OH <sup>2</sup> .....	41° 29' 51.2"	81° 49' 49.5"	470–476, 476–482 .....	14, 15
Dallas/Fort Worth, TX .....	32° 47' 09.5"	96° 47' 38.0"	482–488 .....	16
Detroit, MI <sup>3</sup> .....	42° 19' 48.1"	83° 02' 56.7"	476–482, 482–488 .....	15, 16
Houston, TX .....	29° 45' 26.8"	95° 21' 37.8"	488–494 .....	17
Los Angeles, CA <sup>4</sup> .....	34° 03' 15.0"	118° 14' 31.3"	470–476, 482–488, 506–512 .....	14, 16, 20
Miami, FL .....	25° 46' 38.4"	80° 11' 31.2"	470–476 .....	14
New York/NE NJ .....	40° 45' 06.4"	73° 59' 37.5"	470–476, 476–482, 482–488 .....	14, 15, 16
Philadelphia, PA .....	39° 56' 58.4"	75° 09' 19.6"	500–506, 506–512 .....	19, 20
Pittsburgh, PA .....	40° 26' 19.2"	79° 59' 59.2"	470–476, 494–500 .....	14, 18
San Francisco/Oakland, CA ..	37° 46' 38.7"	122° 24' 43.9"	482–488, 488–494 .....	16, 17
Washington, DC/MD/VA .....	38° 53' 51.4"	77° 00' 31.9"	488–494, 494–500 .....	17, 18

<sup>1</sup> In the Chicago, IL, urbanized area, channel 15 frequencies may be used for paging operations in addition to low power base/mobile usages, where applicable protection requirements for ultrahigh frequency television stations are met.

<sup>2</sup> Channels 14 and 15 are not available in Cleveland, OH, until further order from the Commission.

<sup>3</sup> Channels 15 and 16 are not available in Detroit, MI, until further order from the Commission.

<sup>4</sup> Channel 16 is available in Los Angeles for use by eligibles in the Public Safety Radio Pool.

(c) The band 482–488 MHz (TV Channel 16) is available for use by eligibles in the Public Safety Radio Pool in the following areas: New York City; Nassau, Suffolk, and Westchester counties in New York State; and Bergen County,

New Jersey. All part 90 rules shall apply to said operations, except that:

(1) *Location of stations.* Base stations shall be located in the areas specified in this paragraph (c). Mobile stations may operate throughout the areas

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specified in this paragraph (c) and may additionally operate in areas not specified in this paragraph (c) provided that the distance from the Empire State Building (40° 44' 54.4" N, 73° 59' 8.4" W) does not exceed 48 kilometers (30 miles).

(2) *Protection criteria.* In order to provide co-channel television protection, the following height and power restrictions are required:

(i) Except as specified in paragraph (c)(2)(ii) of this section, base stations shall be limited to a maximum effective radiated power (ERP) of 225 watts at an antenna height of 152.5 meters (500 feet) above average terrain (AAT). Adjustment of the permitted power will be allowed provided it is in accordance with the "169 kilometer Distance Separation" entries specified in Table B in 47 CFR 90.309(a) or the "LM/TV Separation 110 miles (177 km)" curve in Figure B in 47 CFR 90.309(b).

(ii) For base stations located west of the Hudson River, Kill Van Kull, and Arthur Kill, the maximum ERP and antenna height shall be limited to the entries specified in Table B in 47 CFR 90.309(a) or in Figure B in 47 CFR 90.309(b) for the actual separation distance between the base station and the transmitter site of WNEP-TV in Scranton, PA (41° 10' 58.0" N, 75° 52' 20.0" W).

(iii) Mobile stations shall be limited to 100 watts ERP in areas of operation extending eastward from the Hudson River and to 10 watts ERP in areas of operation extending westward from the Hudson River.

[69 FR 31907, June 8, 2004]

## § 90.305 Location of stations.

(a) The transmitter site(s) for base station(s), including mobile relay stations, shall be located not more than 80 km. (50 mi.) from the geographic center of the urbanized area listed in § 90.303.

(b) Mobile units shall be operated within 48 km. (30 mi.) of their associated base station or stations. Such units may not be operated aboard aircraft in flight except as provided for in § 90.315(i).

(c) Control stations must be located within the area of operation of the mobile units.

(d) Base and control stations shall be located a minimum of 1.6 km. (1 mi.)

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from local television stations operating on UHF TV channels separated by 2, 3, 4, 5, 7, and 8 TV channels from the television channel in which the base station will operate.

## § 90.307 Protection criteria.

The tables and figures listed in § 90.309 shall be used to determine the proper power (ERP) and antenna height of the proposed land mobile base station and the proper power (ERP) for the associated control station (control station antenna height shall not exceed 31 m. (100 ft.) above average terrain (AAT)).

(a) Base stations operating on the frequencies available for land mobile use in any listed urbanized area and having an antenna height (AAT) less than 152 m. (500 ft.) shall afford protection to co-channel and adjacent channel television stations in accordance with the values set out in tables A and E of this subpart, except for Channel 15 in New York, NY, and Cleveland, OH, and Channel 16 in Detroit, MI, where protection will be in accordance with the values set forth in tables B and E.

(b) For base stations having antenna heights between 152-914 meters (500-3,000 ft.) above average terrain, the effective radiated power must be reduced below 1 kilowatt in accordance with the values shown in the power reduction graph in Figure A, except for Channel 15 in New York, NY, and Cleveland, OH, and Channel 16 in Detroit, MI, where the effective radiated power must be reduced in accordance with Figure B. For heights of more than 152 m. (500 ft.) above average terrain, the distance to the radio path horizon will be calculated assuming smooth earth. If the distance so determined equals or exceeds the distance to the Grade B contour of a co-channel TV station, (Grade B contour defined in § 73.683(a)) an authorization will not be granted unless it can be shown that actual terrain considerations are such as to provide the desired protection at the Grade B contour, or that the effective radiated power will be further reduced so that, assuming free space attenuation, the desired protection at the Grade B contour will be achieved.

(c) Mobile units and control stations operating on the frequencies available